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10/538,172	06/09/2005	Stephane Rimaux	052598	1706

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EXAMINER	
GOLDFARB, JONATHAN A	
ART UNIT	PAPER NUMBER
3663	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,172	RIMAUX, STEPHANE	
	Examiner	Art Unit	
	Jonathan Goldfarb	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Remarks, filed 19 June 2007, with respect to the Oath, specification, 35 USC 101, 35 USC 112, 1st paragraph (all relevant claims), and 2nd paragraph (all relevant claims) have been fully considered and are persuasive. The objections and rejections of these sections of the previous Office Action have been withdrawn.

2. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection. See details of new rejections, as listed below.

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in France on 04 Feb 2003. It is noted, however, that applicant has not filed a certified copy of the FR-0301273 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The a) statements of intended use or field of use, or b)"adapted to" clauses provide language that suggests or makes optional but does not require steps to be performed or does not limit the scope of a claim or claim limitation (MPEP § 2106(II,C)). Accordingly, the metes and bound of the claim cannot be ascertained by one having ordinary skill in the art.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Osanai (US 4,704,683), and further in view of Suzuki et al. (US 6,188,946). Osanai discloses "a method of controlling a CVT of a motor vehicle" with permanent mode with an average gear ratio lying between two threshold values, and a transient mode with an average gear ratio lying outside two threshold values [abstract]. However Osanai is silent regarding a permanent mode with positive mean variation between thresholds. Suzuki et al. teaches this element [abstract, Fig. 3 and related text].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the positive mean variation of Suzuki et al. with the CVT control method of Osanai so that the aforementioned method will work more effectively, by providing a more robust control that uses the benefits of traditional fixed-gear mechanical transmission characteristics with those of a CVT. This improvement is an adjustment towards a regular CVT, after CVT methods took a backswing to include the benefits of a fixed-gear method.

Regarding claim 2, the absolute value of each of the two threshold values is equal [Osanai - col. 8, claim 5].

Regarding claim 4, a duration of the transient mode is between two other threshold values [Osanai - Fig. 1; col. 6, lines 16-40; col. 8, claim 6].

Regarding claim 5, the third threshold value is substantially equal to 0.3 s [Osanai - Fig. 1], and the fourth threshold value is substantially equal to 0.7 s [Osanai - Fig. 1]. Therefore, it would have been obvious to one of ordinary skill in the art at the

time of invention to use the standard values for transient shift duration as practiced in the industry, as represented in Figure 1.

Regarding claim 7, the absolute value of a variation of a gear ratio in transient mode is between two other threshold values [Osanai - col. 8, claims 4-6].

Regarding claim 8, the gear ratio variation direction is determined and, for a positive variation, threshold values 1 and 2 are reassigned to values 5 and 6 [Osanai - abstract], and for a negative variation, threshold values 3 and 4 are reassigned to values 5 and 6 [Osanai - col. 8, claims 4-6].

Regarding claim 9, value 1 > value 3; value 2 > value 4 [Osanai - Fig. 1, Actual Engine Rotational Speed plot: Nx1, Nx2, Nx3].

Regarding claim 14, a gear ratio is limited in permanent mode [Osanai - Fig. 1, 'speed ratio curve']. "The value of the gear ratio (L) is limited at each instant to lie within a range of values centered on a mean value equal to the gear ratio (L) at the initial instant of the operating stage in permanent mode plus the product of said mean variation (L`) per unit time multiplied by the period of time between said initial instant and the instant in question [Osanai - ex. Fig. 1, speed ratio curve, t4-t5]. The calculation given in this claim describes the plot for speed ratio given in Figure 1.

Regarding claim 15, Osanai discloses an amplitude value that is substantially equal to 50 km/h per 1000 rpm [Osanai - Fig. 1, 'speed ratio curve']. This is a standard value for gear ratio amplitude as practiced in the industry.

Please note that a gear ratio is defined by the equation of claim 14, which is a standard mathematical function that describes a standard physical phenomenon of a feature of a vehicle, and can thus be deemed inherent.

As to limitations which are considered to be inherent in a reference, note the case law of In re Ludtke, 169 U.S.P.Q. 563; In re Swinehart, 169 U.S.P.Q. 226; In re Fitzgerald, 205 U.S.P.Q. 594; In re Best et al, 195 U.S.P.Q. 430; and In re Brown, 173 U.S.P.Q. 685, 688.

8. Claims 1-3 rejected under 35 U.S.C. 102(b) as being anticipated by Nakawaki et al. (US 4,836,056), and further in view of Suzuki et al. (US 6,188,946). Nakawaki et al. discloses "a method of controlling a CVT of a motor vehicle" with permanent mode with an average gear ratio lying between two threshold values, and a transient mode with an average gear ratio lying outside two values [col. 2, lines 25-50]. However Nakawaki et al.is silent regarding a permanent mode with positive mean variation between thresholds. Suzuki et al. teaches this element [abstract, Fig. 3 and related text].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the positive mean variation of Suzuki et al. with the CVT control method of Nakawaki et al.so that the aforementioned method will work more effectively, by providing a more robust control that uses the benefits of traditional fixed-gear mechanical transmission characteristics with those of a CVT. This improvement is an adjustment towards a regular CVT, after CVT methods took a backswing to include the benefits of a fixed-gear method.

Regarding claim 2, the absolute value of each of the two threshold values is equal [col. 2, lines 31-36].

Regarding claim 3, the period is greater than 1 second, and the threshold values are between 0.35 km/h and 0.45 km/h per 1000 rpm/s [Fig.s 7-9; col. 8, lines 42-53].

9. Claims 10-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Osanai (US 4,704,683) and Suzuki et al. (US 6,188,946), as applied to claims 1, 2, 4-9, and 14-15, and further in view of Nakawaki et al. (US 4,836,056). Osanai and Suzuki et al. are silent regarding values or ranges for fixed threshold constants. Nakawaki et al. teaches several possible threshold values [Fig. 7; col. 8, lines 43-46]. In particular for claim 10, 'L23' is optionally equal to this value, as noted 'L12 *or* L23' and 'speed ratios r1, r2 *or* between two points' [col. 8, lines 47-53]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the threshold values in Figure 7 of Nakawaki et al. as threshold values for mean variation of gear ratio in order to limit gear ratio during transient mode so that shifting noise will be mitigated and then shifting comfort will increase.

10. Claim 16 rejected under 35 U.S.C. 102(b) as being anticipated by Osanai (US 4,704,683) and Suzuki et al. (US 6,188,946) as applied to claims 1, 2, 4-9, and 14-15, and further in view of Nakawaki et al. (US 4,836,056). Osanai and Suzuki et al. are silent regarding an acceleration control variable. Nakawaki et al. teaches an acceleration control variable that represents the position of the accelerator pedal [col. 2, lines 30-32]. Therefore, it would have been obvious to one of ordinary skill in the art at

the time of invention to use the acceleration control variable of Nakawaki et al. in order to control engine speed and determine an operational mode.

Claims 17-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Osanai (US 4,704,683) and Suzuki et al. (US 6,188,946) as applied to claims 1, 2, 4-9, and 14-15, and further in view of Guichard et al. (FR-2,729,343). Osanai and Suzuki et al. are silent regarding road slope. Guichard et al. teaches of road slope estimation and its use as a variable along with vehicle speed and acceleration parameters [p. 5, lines 29-end; p. 6, lines 15-25]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the road slope estimation of Guichard et al. as an input to control gear ratio and so that shifting noise will be mitigated and then shifting comfort will increase.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Goldfarb whose telephone number is 571-272-7964. The examiner can normally be reached on M-Th 9-5, F ~2.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JG
24-Aug-07

JACK KEITH
SUPERVISORY PATENT EXAMINER